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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/008,264	12/03/2001	Laurie H. Glimcher	HUI-040CP	2529

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LAHIVE & COCKFIELD
28 STATE STREET
BOSTON, MA 02109

EXAMINER

JUEDES, AMY E

ART UNIT	PAPER NUMBER
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1644

DATE MAILED: 03/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/008,264

Applicant(s)

GLIMCHER ET AL.

Examiner

Amy E. Juedes, Ph.D.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,6,8-12,50,51,53-55, 57-58 and 61-114 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,2,4,6,8-12,50,51,53,55,58,61-75,78-84,87-100,103-111,113 and 114 is/are allowed.
- 6) ☒ Claim(s) 54,57,76,77,85,86,101,102 and 112 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8/1/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: notice to comply

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DETAILED ACTION

1. The examiner of this application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Amy Juedes, Group Art Unit 1644, Technology Center 1600.

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed 1/26/06 in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/26/06 has been entered.

Claims 67, 77-80, 84, and 86 have been amended.

Claims 87-114 have been added.

Claims 1-2, 4, 6, 8-12, 50-51, 53-58, 61-114 are pending.

Applicant has requested that claims 87-114, drawn to murine T-bet, be rejoined in view of the amendment which places linking claim 51 in condition for allowance. However, based on new grounds of rejection, linking claim 51 is not allowable. Therefore claims 87-114, drawn to murine T-bet, stand withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claims 1-2, 4, 6, 8-12, 50-51, 53-58, 61-86 are under examination.

3. Applicant's submission of the corrected CRF and sequence listing is acknowledged. However, this application still fails to comply with the requirements of 37 CFR §§ 1.821 through 1.825 for the reason(s) set forth below:

The specification fails to disclose the SEQ ID NOS for the nucleotide sequence on pg. 14 and pg. 72, paragraph 3.

4. The rejection of claims 50 and 64 under 35 U.S.C. 112 second paragraph has been withdrawn in view of Applicant's amendment on 12/14/05. Specifically, the amendment has clarified claim 50 to clearly indicate that Thp and Th2 cells are differentiated into Th1 cells and not the other way around. Furthermore, the deletion of IL-2 from claim 64 obviates the rejection of this claim. The cancellation of claim 60 renders the rejections under 35 U.S.C. 112 first and second paragraph moot.

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5. The provisional obviousness-type double patenting rejection of record has been withdrawn in view of the cancellation of the conflicting claims in copending application 10/309,747 in the amendment filed 11/8/05.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 50, 58, and 64 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A) Claims 50 and 64 claims are rendered indefinite due to the recitation of "differentiating Thp cells and Th2 cells into Th1 cells". While a polypeptide may be able to induce differentiation, it cannot "differentiate" cells as claimed.

B) Claim 58 is indefinite in the recitation of a nucleic acid "comprising at least 700 nucleotides which is complementary to SEQ ID NO: 1". It is not clear whether the claims encompass nucleic acids of at least 700 nucleotides which are complementary over any length to SEQ ID NO:1, or whether the claims are limited to nucleic acids which have 700 nucleotides complementary to SEQ ID NO: 1.

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 54, 57, 76-77, and 85-86 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a new matter rejection.

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The specification and the claims as originally filed do not provide support for the invention as now claimed, specifically:

A) An isolated nucleic acid molecule further comprising a nucleic acid sequence encoding a "heterologous polypeptide" (Claim 54 and 76-77).

B) The variously claimed nucleic acid molecules "labeled with a detectable substance" (Claim 57 and 85-86).

In the Preliminary Amendment filed 10/25/04, Applicant indicates that support for the limitations of Claims 54 can be found at page 24 of the specification, and that support for the limitations of Claims 57 can be found at page 37.

A review of the specification fails to reveal support for the new limitations.

Regarding A), at pages 24, the specification discloses recombinant T-bet protein can be prepared as an extracellular protein by operatively linking a heterologous signal sequence to the protein. This disclosure is insufficient to provide support for claims drawn to a nucleic acid further comprising a nucleotide sequence encoding any heterologous polypeptide.

Regarding B), at page 37, the specification discloses labeled nucleic acid probes that hybridize to T-bet mRNA, including probes such as the T-bet DNA of SEQ ID NO: 1 or 3. This specific example of labeled probes comprising SEQ ID NO: 1 or 3 is insufficient to provide adequate support for new claims drawn to a detectably labeled nucleic acid which encodes SEQ ID NO: 2 or a polypeptide 95% identical to SEQ ID NO: 2, or a detectably labeled nucleic acid which has at least 90% identity with SEQ ID NO: 1.

9. Claims 1-2, 4, 6, 8-12, 50-51, 53-58, and 61-86 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Specifically, there is insufficient written description to demonstrate that applicant was in possession of the claimed genus of nucleic acids that are "complements thereof" or "complementary to" SEQ ID NO: 1 or the nucleotide sequence encoding SEQ ID NO: 2, "90% identical with

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SEQ ID NO:1", "encodes a polypeptide 95% identical to SEQ ID NO: 2", or "a fragment of at least 700 contiguous nucleotides of SEQ ID NO: 1".

The instant specification does not define the terms "complement thereof" or "complement of" as recited in Claims 1-2, 51, and 55. Therefore, "complements" might encompass a sequence of any length. For example, 10 nucleotide fragments "complementary" to SEQ ID NO: 1 might be encompassed by the claims. Likewise, Claim 58 recites a nucleic acid molecule comprising at least 700 nucleotides which is "complementary" to SEQ ID NO: 1. However, the claims do not specifically identify which portion is "complementary", and thus the claims encompass nucleic acid molecules of 700 nucleotides that contain any portion complementary to SEQ ID NO: 1 (i.e. even only 10 nucleotides). Furthermore, the nucleic acid molecules of claims 1, 2, 55, and 58 need not even encode a protein of similar function to the T-bet. Thus, the genus of nucleic acid molecules encompassed by "complements thereof" or "complementary to" is virtually unlimited, and might encompass structurally and functionally distinct nucleic acids. Additionally, Applicant has not disclosed any species that are the "complement of" or "complementary to" SEQ ID NO: 1.

Additionally, nucleic acids that are "90% identical with SEQ ID NO:1" or "encode a polypeptide 95% identical to SEQ ID NO: 2" is the recitation of a broad genus of nucleic acid molecules. For example, SEQ ID NO: 1 is ~1600 nucleotides in length. Therefore, nucleic acids "90% identical" with SEQ ID NO: 1 might be approximately 160 nucleotides (i.e. about 10%) different than SEQ ID NO: 1. Thus, the claims encompass a virtually unlimited number of nucleic acids with mutations, deletions or additions up to ~160 nucleotides in length. Furthermore, the only claimed functional limitation for said nucleic acids is binding to a consensus T-box site. Therefore, the claims encompass nucleic acids that encode proteins that only bind to a T-box site, but might not mediate any other T-bet function (for example the ability to induce IFN- γ production). Thus, these nucleic acids might differ functionally in that some might encode a protein that induces IFN- γ , while some might only be able to bind a T-box site. Furthermore, the claims also encompass fragments of SEQ ID NO: 1 "of at least 700 contiguous nucleotides in length". Since SEQ ID NO: 1 is ~1600 nucleotides, the genus encompassed by said fragments is extremely large. In addition, there is no limitation that the fragments of claim 55 even function to encode

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a functional T-bet protein. Furthermore, Applicant has not disclosed any species of nucleic acids "90% identical", 95% identical" or any specific nucleic acid fragments. Thus, one of skill in the art would conclude that the specification fails to provide adequate written description to demonstrate that Applicant was in possession of the claimed genus See *Eli Lilly*, 119 F. 3d 1559, 43, USPQ2d 1398.

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 8, 10, 51, 55, 58, 67, and 69 are rejected under 35 U.S.C. 102(b) as being anticipated by Bulfone et al., 1995.

Bulfone teaches an isolated nucleic acid that encodes Tbr-1, which is a T-box transcription factor (i.e. binds a T-box site in DNA - see abstract and pg. 64-65 in particular). Furthermore, the nucleic acid taught by Bulfone is complementary to SEQ ID NO: 1 of the instant application over certain portions of the sequence. Thus, Tbr-1 nucleic acid comprises a "complement" of SEQ ID NO: 1 (see for example residues 691-707 of Tbr-1, which are complementary to residues 465-481 of SEQ ID NO: 1). Claim 51 is included since "a complement of SEQ ID NO: 1" might comprise any portion of SEQ ID NO: 1 (for example residues 465-481), and thus Tbr-1 would hybridize to "a complement" of SEQ ID NO:1. Claim 58 is included since Tbr-1 is at least 700 nucleotides and "is complementary" over certain portions of the sequence to SEQ ID NO: 1. Additionally, Bulfone teaches clones (i.e. vectors and host cells) comprising Tbr-1 nucleic acid (see pg. 76 in particular).

Thus, the reference clearly anticipates the invention.

11. No claim is allowed. Claims 4, 6, and 53 are free of the art.

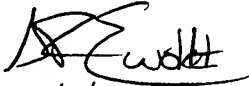
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy E. Juedes, Ph.D. whose telephone number is 571-272-4471. The examiner can normally be reached on 8am - 5pm, Monday through Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached on 571-272-0841. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Amy E. Juedes, Ph.D.
Patent Examiner
Technology Center 1600
March 3, 2006


3/14/06
G.R. EWOLDT, PH.D.
PRIMARY EXAMINER

<p align="center">Notice to Comply</p>	<p align="center">Application No. 10/008,264</p>	<p align="center">Applicant(s) GLIMCHER ET AL.</p>	
	<p align="center">Examiner Amy E. Juedes, Ph.D.</p>	<p align="center">Art Unit 1644</p>	

NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE DISCLOSURES

Applicant must file the items indicated below within the time period set in the Office action to which the Notice is attached to avoid abandonment under 35 U.S.C. § 133 (extensions of time may be obtained under the provisions of 37 CFR 1.136(a)).

The nucleotide and/or amino acid sequence disclosure contained in this application does not comply with the requirements for such a disclosure as set forth in 37 C.F.R. 1.821 - 1.825 for the following reason(s):

- ☒ 1. This application clearly fails to comply with the requirements of 37 C.F.R. 1.821-1.825. Applicant's attention is directed to the final rulemaking notice published at 55 FR 18230 (May 1, 1990), and 1114 OG 29 (May 15, 1990). If the effective filing date is on or after July 1, 1998, see the final rulemaking notice published at 63 FR 29620 (June 1, 1998) and 1211 OG 82 (June 23, 1998).
- ☐ 2. This application does not contain, as a separate part of the disclosure on paper copy, a "Sequence Listing" as required by 37 C.F.R. 1.821(c).
- ☐ 3. A copy of the "Sequence Listing" in computer readable form has not been submitted as required by 37 C.F.R. 1.821(e).
- ☐ 4. A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 C.F.R. 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing."
- ☐ 5. The computer readable form that has been filed with this application has been found to be damaged and/or unreadable as indicated on the attached CRF Diskette Problem Report. A Substitute computer readable form must be submitted as required by 37 C.F.R. 1.825(d).
- ☐ 6. The paper copy of the "Sequence Listing" is not the same as the computer readable form of the "Sequence Listing" as required by 37 C.F.R. 1.821(e).
- ☒ 7. Other: Sequences on pg. 14 and pg. 72, paragraph 3 are not identified by SEQ ID NOS.

Applicant Must Provide:

- ☒ An initial or substitute computer readable form (CRF) copy of the "Sequence Listing".
- ☒ An initial or substitute paper copy of the "Sequence Listing", **as well as an amendment specifically directing its entry into the application.**
- ☒ A statement that the content of the paper and computer readable copies are the same and, where applicable, include no new matter, as required by 37 C.F.R. 1.821(e) or 1.821(f) or 1.821(g) or 1.825(b) or 1.825(d).

For questions regarding compliance to these requirements, please contact:

For Rules Interpretation, call (571) 272-2510

For CRF Submission Help, call (571) 272-2501/2583.

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